## **PCT**

# WORLD INTELLECTUAL PROPERTY ORGANIZATION



### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:

F16K 7/12, 27/02, 27/00, 27/12, 31/128, 31/10, 31/08, F16J 13/02, 13/12, 13/24, B65D 90/10, 39/08, 39/10, 45/30

(11) International Publication Number:

WO 00/39489

(43) International Publication Date:

6 July 2000 (06.07.00)

(21) International Application Number:

PCT/AU99/01145

A1

(22) International Filing Date:

22 December 1999 (22.12.99)

(30) Priority Data:

PP 7910 PO 0258 23 December 1998 (23.12.98) A

10 May 1999 (10.05.99)

OS) AU AU

(71) Applicant (for all designated States except US): GOYEN CONTROLS CO PTY LIMITED [AU/AU]; 268–292 Milperra Road, Milperra, NSW 2214 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HELLER, Patrick, Alexander [AU/AU]; 1/12 Kareela Road, Cremome Point, NSW 2090 (AU). MCCAUSLAND, Andrew, John [AU/AU]; 15 Myrtle Road, Clairemont Meadows, NSW 2747 (AU).

(74) Agent: FREEHILLS CARTER SMITH & BEADLE; MLC Centre, Martin Place, Sydney, NSW 2000 (AU). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

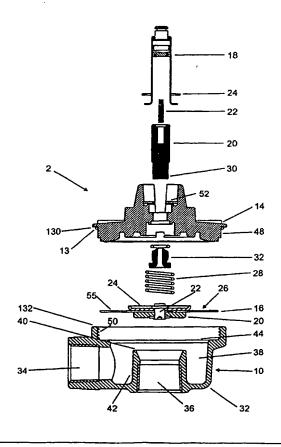
#### Published

With international search report.

(54) Title: AIR FLOW CONTROL VALVE

#### (57) Abstract

An air flow control valve including: a valve body having an internal cavity and an inlet and outlet in flow communication with the internal cavity, the axes of the inlet and outlet being aligned at substantially 90° to each other; a valve seat located within the cavity and co-axially aligned with the outlet, the valve seat being located on the distal end of an upstanding tubular pedestal which is formed around the outlet; the internal cavity being configured so as to define an annular space around the pedestal with which the inlet is in flow communication; a flexible generally planar diaphragm mounted above the valve seat, the diaphragm supporting a valve closure member which is adapted to engage the valve seat to close the valve; valve control means for causing the diaphragm to move towards and away from the valve seat to close and open the valve respectively; and the valve being characterised in that, with the valve oriented with the inlet axis horizontal and the outlet facing downwards, the valve seat is located at an elevation at or below the upper most edge of the inlet, and the diaphragm is located at an elevation above the upper most edge of the inlet.



### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AM A AT A AU A AZ A BA B	Nbania Amenia Austria Australia Azerbaijan Bosnia and Herzegovina Barbados	ES FI FR GA GB GE	Spain Finland France Gabon United Kingdom	LS LT LU LV	Lesotho Lithuania Luxembourg Latvia	SI SK SN	Slovenia Slovakia Senegal
AT A AU A AZ A BA B	Austria Australia Azerbaijan Bosnia and Herzegovina Barbados	FR GA GB GE	France Gabon	LU LV	Luxembourg	SN	
AU A AZ A BA B	vustralia Azerbaijan Bosnia and Herzegovina Barbados	GA GB GE	Gabon	LV	•		Senegal
AZ A BA B	Azerbaijan Bosnia and Herzegovina Barbados	GB GE			Latvia	0.77	
BA B	Bosnia and Herzegovina Barbados	GE	United Kingdom		Latt A 14	SZ	Swaziland
	Barbados			MC	Monaco	TD	Chad
BB B			Georgia	MD	Republic of Moldova	TG	Togo
		GH	Ghana	MG	Madagascar	TJ	Tajikistan
	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF B	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG B	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ B	Benin	ΙE	Ireland	MN	Mongolia	UA	Ukraine
BR B	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY B	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA C	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF C	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG C	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH S	witzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CI C	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM C	Cameroon		Republic of Korea	PL	Poland		
CN C	China	KR	Republic of Korea	PT	Portugal		
CU C	Cuba	KZ	Kazakstan	RO	Romania		
CZ C	zech Republic	LC	Saint Lucia	RU	Russian Federation		
DE G	iermany	LI	Liechtenstein	SD	Sudan		
DK D	enmark	LK	Sri Lanka	SE	Sweden		
EE E	stonia	LR	Liberia	SG	Singapore		